

What is Claimed is:

1. A system for delivering location-based services to mobile clients in a building structure using short-range wireless technology, comprising:

a plurality of short-range wireless communication devices, each of the mobile clients equipped with at least one of said devices;

a plurality of short range wireless access points adapted for communicating with said mobile clients via said short-range wireless communication devices;

a location registry having means for tracking the location of said mobile clients;

access point software for enabling the communication of information to said location registry; and

one or more location aware service proxies.

2. A system as recited in claim 1, wherein said access point software is maintained on an adapter coupled to said wireless access points.

3. A system as recited in claim 1, further comprising an active client list maintained by at least one of said wireless access points and said adapters coupled to said wireless access points, said active client list containing Medium Access Control (MAC) addresses for said active clients.

4. A system as recited in claim 1, wherein said wireless access points include means for detecting the identity of a system user.

5. A system as recited in claim 1, wherein said wireless access points have means for detecting one or more mobile client characteristics.

6. A system as recited in claim 1, wherein said location registry further comprises:

means for receiving notification information from said wireless access points; and

means for maintaining a table listing of wireless access points associated with each of said mobile clients.

7. A system as recited in claim 1, wherein said location aware service proxies each have means for intercepting client requests and means for generating responses incorporating location sensitive information.

8. A system as recited in claim 1, wherein said one or more location aware service proxies comprise at least one of: an HTTP proxy, a WSP proxy, a DNS proxy, a message proxy and a directory proxy.

9. A system as recited in claim 8 wherein said DNS proxy includes means for determining an IP address for a requested host name, said host name corresponding to a location-based service corresponding to a client location.

10. A system as recited in claim 8 wherein said message proxy includes means for filtering a list of current messages requested from said message server based upon client location.

11. A system as recited in claim 1, further comprising a protocol proxy, said protocol proxy annotating content received from said service proxy.

12. A system as recited in claim 1, wherein said location registry further comprises a query interface adapted for interfacing with the protocol proxy to give location information about a mobile client.

13. A system as recited in claim 1 wherein said location aware service proxy further comprises a protocol proxy.

14. A method for delivering location-based services to a plurality of mobile clients located within a building structure using short-range wireless technology, the mobile clients each carrying a short-range wireless communication device, the method comprising the steps of:

establishing a plurality of short-range wireless access points having means for communicating with said mobile clients via said wireless communication devices;

communicating information from said access points to a location registry via access point software;

providing a plurality of location aware service proxies; and

continuously tracking the location of said mobile clients via said location registry.

15. A method as recited in claim 14, wherein the step of communicating further comprises communicating information from one more adapters coupled to said access points to a location registry.

16. A method as recited in claim 14, further comprising the step of continuously monitoring traffic generated by said mobile clients via said access point software.

17. A method as recited in claim 14, further comprising the step of transmitting a register notification from a wireless access point to said location registry upon detecting a new mobile client address on said wireless access point.

18. A method as recited in claim 14, further comprising the step of transmitting a reverse registration notification from a wireless access point to said location registry upon detecting a mobile client departure from said wireless access point.

19. A method as recited in claim 16, further comprising the step of monitoring the quantity of time lapsed since the previous detection of traffic for each of said active mobile clients.

20. A method as recited in claim 19, further comprising the step of defining a mobile client departure from a wireless access point based upon said time lapse.

21. A method as recited in claim 14, further comprising the step of transmitting register notifications from a wireless access point to said location registry at timed intervals, said register notification including a list of all mobile clients actively communicating with said access point, said location registry defining a mobile client address as unregistered where the client is not included on the active mobile client list.

22. A method as recited in claim 14, further comprising the step of maintaining an active client list associated with each access point, each active client list including the corresponding MAC addresses.

23. A method as recited in claim 22, further comprising the step of adding a MAC address of a mobile client upon detection of network traffic from said mobile client.

24. A method as recited in claim 22, further comprising the step of deleting a MAC address of a mobile client upon failure to detect respective client traffic within a predetermined time period.

25. A method as recited in claim 14, further comprising the step of transmitting notification information from said wireless access points to said location registry, said location registry maintaining a table listing of current access points associated with each of the mobile clients.

26. A method as recited in claim 14, further comprising the step of enhancing the functionality of an access point to identify a system user or a mobile client characteristic.

27. A method as recited in claim 17, further comprising the step of adding an access point ID to a location list for a particular client ID upon receiving a registry notification.

28. A method as recited in claim 17, further comprising the step of removing an access point ID from the location list for a particular client ID upon receiving a reverse registry notification.

29. A method as recited in claim 14, further comprising the steps of:

intercepting client requests via said location aware service proxies; and

generating responses incorporating location sensitive information via said location aware service proxies.

30. A method as recited in claim 14 wherein the location aware service proxy further comprises a DNS proxy, the method further comprising the step of determining an IP address for a requested host name corresponding to a location-based service based upon a client location.

31. A method as recited in claim 14 wherein the location aware service proxy further comprises a message proxy, the method further comprising the step of filtering a list of current messages received from a message server, based upon a client location, via said message proxy.

32. A method as recited in claim 14, further comprising the step of annotating content received by said protocol from said location aware service proxy.